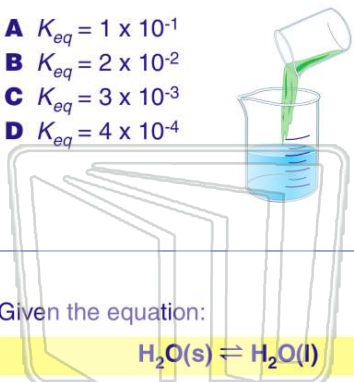




Name _____ Class _____ Date _____

- 1 Which **equilibrium constant** indicates the **highest concentration** of product?

- A $K_{eq} = 1 \times 10^{-1}$
 B $K_{eq} = 2 \times 10^{-2}$
 C $K_{eq} = 3 \times 10^{-3}$
 D $K_{eq} = 4 \times 10^{-4}$



- 2 Which statement best describes a **chemical reaction** when it reaches **equilibrium**?

- A The concentrations of reactants and products are the same.
 B The concentrations of the reactants decrease to zero.
 C The forward and reverse reaction rates are the same.
 D The forward reaction rate decreases to zero.

- 3 Given the equation:

$$\text{H}_2\text{O}(s) \rightleftharpoons \text{H}_2\text{O}(l)$$

 At which **temperature** will equilibrium exist when the atmospheric pressure is 1 atm?

- A 0 K C 273 K
 B 100 K D 373 K

- 4 Which **statement** correctly describes a chemical reaction at **equilibrium**?

- A The concentrations of the products and reactants are equal.
 B The concentrations of the products and reactants are constant.
 C The rate of the forward reaction is less than the rate of the reverse reaction.



PREVIEW

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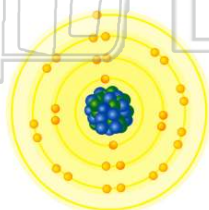
- 7
- A decreases
 B increases
 C remains the same



- A a physical change, only
 B both a chemical and a physical change
 C neither a chemical nor a physical change

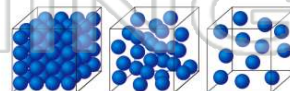
- 9 An **increase** in the **average kinetic energy** of a sample of copper atoms occurs with an **increase** in

- A concentration
 B temperature
 C pressure
 D volume



- 10 Which **phase change** represents a **decrease in entropy**?

- A solid to liquid
 B gas to liquid
 C liquid to gas
 D solid to gas





ANSWER KEY

Which **equilibrium constant** indicates the **highest concentration** of product?

- A $K_{eq} = 1 \times 10^{-1}$
- B $K_{eq} = 2 \times 10^{-2}$
- C $K_{eq} = 3 \times 10^{-3}$
- D $K_{eq} = 4 \times 10^{-4}$



(a)

Which statement best describes a **chemical reaction** when it reaches **equilibrium**?

- A The concentrations of reactants and products are the same.
- B The concentrations of the reactants decrease to zero.
- C The forward and reverse reaction rates are the same.
- D The forward reaction rate decreases to zero.

(c)

Given the equation:



At which **temperature** will equilibrium exist when the atmospheric pressure is 1 atm?

- A 0 K
- B 100 K
- C 273 K
- D 373 K

(c)

Which **statement** correctly describes a chemical reaction at **equilibrium**?

- A The concentrations of the products and reactants are equal.
- B The concentrations of the products and reactants are constant.
- C The rate of the forward reaction is less than the rate of the reverse reaction.
- D The rate of the forward reaction is greater

(b)



PREVIEW

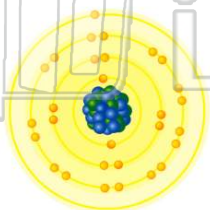
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- B increases
- C remains the same

- D neither a chemical nor a physical change

An **increase** in the **average kinetic energy** of a sample of copper atoms occurs with an **increase** in

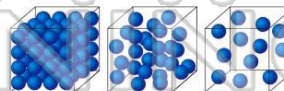
- A concentration
- B temperature
- C pressure
- D volume



(b)

Which **phase change** represents a **decrease in entropy**?

- A solid to liquid
- B gas to liquid
- C liquid to gas
- D solid to gas



(b)